

Express Mail Label No. EM 087980184 US

Dated:

8/16/2007

Docket No.: 0019240.00594US1
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

| | | | |
|------------------|---|-------------------|-------|
| Applicant: | Andrew R. Marks | Confirmation No.: | 6915 |
| Application No.: | 10/608,723 | Art Unit: | 1646 |
| Filed: | June 26, 2003 | Examiner: | R. Li |
| Title: | METHODS FOR TREATING AND PREVENTING CARDIAC ARRHYTHMIA | | |

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT (IDS)

Dear Sir:

Pursuant to the duty of disclosure under 37 C.F.R. §§ 1.56, 1.97 and 1.98, applicants bring to the attention of the Examiner the documents listed on the attached Form PTO SB-08. Copies of the documents listed are not submitted herewith. These documents were previously cited by or submitted to the United States Patent and Trademark Office in U.S. Patent Application No. 10/288,606, filed November 5, 2002 and is relied upon in this application for an earlier filing date under 35 U.S.C. 120.

This Information Disclosure Statement is being filed before the mailing of a first Office Action after the filing of a request for continued examination under 37 C.F.R. §1.114. No certification or fee is believed to be due. If, however, a fee is due, please charge our Deposit Account No. 08-0219.

Applicants request that the Examiner initial and return a copy of the enclosed Form PTO SB-08 with the next communication.

Respectfully submitted,

Dated: 8/16/2007

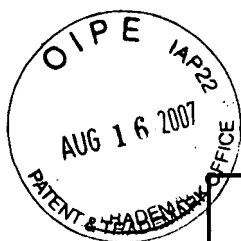


Jane M. Love, Ph.D.

Registration No.: 42,812

Attorney for Applicant(s)

Wilmer Cutler Pickering Hale and Dorr LLP
399 Park Avenue
New York, New York 10022
(212) 937-7233 (telephone)
(212) 230-8888 (facsimile)



Used in Lieu of PTO/SB/08A/B
(Based on PTO 04-07 version)

| | | | | | |
|---|------------------|----|---|--------------------------|------------------------|
| Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary) | | | | Complete if Known | |
| | | | | Application Number | 10/608,723-Conf. #6915 |
| | | | | Filing Date | June 26, 2003 |
| | | | | First Named Inventor | Andrew R. MARKS |
| | | | | Art Unit | 1646 |
| Examiner Name | R. Li | | | | |
| Attorney Docket Number | 0019240.00594US1 | | | | |
| Sheet | 1 | of | 3 | | |

| U.S. PATENT DOCUMENTS | | | | | |
|-----------------------|--------------------------|--|-----------------------------------|--|---|
| Examiner Initials* | Cite No. ¹ | Document Number | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear |
| | | Number-Kind Code ² (if known) | | | |
| | AA* | US-5,866,341 | 02-02-1999 | Spinella et al. | |
| | AB* | US-20050186640-A1 | 08-25-2005 | Marks et al. | |
| | AC* | US-20050187386-A1 | 08-25-2005 | Marks et al. | |
| | AD* | US-6,989,275-A1 | 01-24-2006 | Waggoner | |
| | AE* | US-20060194767-A1 | 08-31-2006 | Marks et al. | |
| | AF* | US-20060293266-A1 | 12-28-2006 | Marks | |
| | AG* | US-20070049572-A1 | 03-01-2007 | Marks et al. | |

| FOREIGN PATENT DOCUMENTS | | | | | | |
|--------------------------|--------------------------|---|-----------------------------------|---|---|----------------|
| Examiner Initials* | Cite No. ¹ | Foreign Patent Document | Publication Date MM-DD-YYYY | Name of Patentee or Applicant of Cited Document | Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear | T ⁴ |
| | | Country Code ³ -Number ⁴ -Kind Code ⁵ (if known) | | | | |
| | BA** | WO-04/080283 | 09-23-2004 | The Trustees of Columbia University in the city of New York | | |
| | BB** | WO-05/002518 | 01-13-2005 | The Trustees of Columbia University in the city of New York | | |
| | BC** | WO-05/037195 | 04-28-2005 | The Trustees of Columbia University in the city of New York | | |
| | BD** | WO-05/094457 | 10-13-2005 | The Trustees of Columbai University in the city of New York | | |
| | BE** | WO-06/071603 | 07-06-2006 | The Trustees of Columbia University in the city of New York | | |
| | BF** | WO-06/101497 | 09-28-2006 | The Trustees of Columbia University in the city of New York | | |
| | BG** | WO-06/101496 | 09-28-2006 | The Trustees of Columbia University in city of New York | | |
| | BH** | WO-07/024717 | 03-01-2007 | The Trustees of Columbia University in the city of New York | | |

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. * CITE NO.: Those application(s) which are marked with an single asterisk (*) next to the Cite No. are not supplied (under 37 CFR 1.98(a)(2)(iii)) because that application was filed after June 30, 2003 or is available in the IFW. ** CITE NO.: Those document(s) which are marked with an double asterisk (**) next to the Cite No. are not supplied because they were previously cited by or submitted to the Office in a prior application relied upon in this application for an earlier filing date under 35 U.S.C. 120. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

| | |
|-----------------------|--------------------|
| Examiner Signature | Date Considered |
|-----------------------|--------------------|

6323194

US1DOCS 6323194v1

| | | | | | |
|---|---|----|---|--------------------------|------------------------|
| Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary) | | | | Complete if Known | |
| | | | | Application Number | 10/608,723-Conf. #6915 |
| | | | | Filing Date | June 26, 2003 |
| | | | | First Named Inventor | Andrew R. MARKS |
| | | | | Art Unit | 1646 |
| | | | | Examiner Name | R. Li |
| Sheet | 2 | of | 3 | Attorney Docket Number | 0019240.00594US1 |

| NON PATENT LITERATURE DOCUMENTS | | | | |
|---------------------------------|----------|---|----------------|-----------------|
| Examiner Initials | Cite No. | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. | T ² | |
| | CA** | Bidasee et al., "Chronic Diabetes Increases Advanced Glycation End Products on Cardiac Ryanodine Receptors/Calcium-Release Channels," Diabetes, Vol 52, pp. 1825-1836 | | |
| | CB** | Bidasee et al., "Diabetes Increases Formation of Advanced Glycation End Products on Sarco (endo) plasmic Reticulum Ca2+-ATPase," Diabetes, Vol 53, pp. 463-473 (2004) | | |
| | CC** | Bruton et al., "Ryanodine receptors of pancreatic β -cells mediate a distinct context-dependent signal for insulin secretion," the FASEB Journal, Vol 17, pp. 301-303 (2003) | | |
| | CD** | Buijs et al., " β -Adrenergic activation reveals impaired cardia calcium handling at early stage of diabetes," Life Sciences, Vol 76, pp. 1083-1098 (2005) | | |
| | CE** | Dyachok et al., "Ca2+-induced Ca2+ release by activation of inositol 1,4,5-trisphosphate receptors in primary pancreatic β -cells," Cell Calcium, Vol 36, pp. 1-9 (2004) | | |
| | CF** | Dyachok et al., "Ca2+-induced Ca2+ Release via Inositol 1,4,5-trisphosphate Receptors Is Amplified by Protein Kinase and Triggers Exocytosis in Pancreatic β -Cells," The Journal of Biological Chemistry, Vol. 279, No 44, pp. 45455-45461 (2004) | | |
| | CG** | Eisner et al., "The Ryanodine Receptor: Cause or Consequence of Diabetic Heart Failure ?," J. Moll Cell Cardiol, Vol 32, pp. 1377-1378 (2000) | | |
| | CH** | Holz et al., "cAMP-dependent Mobilization of Intracellular Ca2+ Stores by Activation of Ryanodine Receptors in Pancreatic β -Cells," The Journal of Biological Chemistry, Vol 274, pp. 14147-14156 (1999) | | |
| | CI** | International Search Report and Written Opinion from PCT/US2005/10056, June 5, 2007 | | |
| | CJ** | Islam S., "Perspectives in Diabetes. The Ryanodine Receptor Calcium Channel of β -Cells. Molecular Regulation and Physiological Significance," Diabetes, Vol 51, pp. 1299-1309 (2002) | | |
| | CK** | Islam et al., "Effects of caffeine on cytoplasmic free Ca2+ concentration in pancreatic β -cells are mediated by interaction with ATP-sensitive K+ channels and L-type voltage-gated Ca2+ channels but not ryanodine receptor," Biochem. J., Vol. 306, pp. 679-686 (1995) | | |
| | CL** | Islam et al., "In situ activation of the type 2 ryanodine receptor in pancreatic beta cells requires cAMP-dependent phosphorylation," Proc. Natl. Acad. Sci. USA, Vol. 95, pp. 6145-6150 (1998) | | |
| | CM** | Johnson et al., "RyR2 and Calpain-10 Delineate a Novel Apoptosis Pathway in Pancreatic Islets," The Journal of Biological Chemistry, Vol 279, pp. 24794-24802 (2004) | | |
| | CN** | Johnson et al., "Ryanodine receptors in human pancreatic β cells: localization and effects on insulin secretion," the FASEB Journal, Vol 18, pp. 878-880 (2004) | | |
| | CO** | Kang et al., "A cAMP and Ca2+ coincidence detector in support of Ca2+-induced Ca2+ release in mouse pancreatic β cells," J. Physiol, Vol 566, pp. 173-188 (2005) | | |
| | CP** | Kang et al., "cAMP-regulated guanine nucleotide exchange factor II (Epac2) mediates Ca2+-induced Ca2+ release in INS-1 pancreatic β -cells," Journal of Physiology, Vol 536.2, pp. 375-385 (2001) | | |
| | CQ** | Lehnart et al., "Phosphodiesterase 4D associates with the cardiac calcium release channel (Ryanodine Receptor) and protects from Hypertrophy and heart failure", Circulation, Vol. 110, No 17 Suppl. S, pp. 227-228 (October 26, 2004) | | |
| | CR** | Liu et al., "Crosstalk between the cAMP and Inositol Trisphosphate-Signalling Pathways in Pancreatic β -Cells," Archives of Biochemistry and Biophysics, Vol 334, pp.295-302 (1996) | | |
| | CS** | Mitchell et al., "Ryanodine Receptor Type I and Nicotinic Acid Adenine Dinucleotide Phosphate Receptors Mediate Ca2+ Release from Insulin-containing Vesicles in Living Pancreatic β -Cells (MIN6)," The Journal of Biological Chemistry, Vol 278, pp. 11057-11064 (2003) | | |
| Examiner Signature | | | | Date Considered |

6323194

| | | | | | |
|---|---|----|---|--------------------------|------------------------|
| Substitute for form 1449/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary) | | | | Complete if Known | |
| | | | | Application Number | 10/608,723-Conf. #6915 |
| | | | | Filing Date | June 26, 2003 |
| | | | | First Named Inventor | Andrew R. MARKS |
| | | | | Art Unit | 1646 |
| | | | | Examiner Name | R. Li |
| Sheet | 3 | of | 3 | Attorney Docket Number | 0019240.00594US1 |

| | | | |
|--|-------|--|--|
| | CT** | Pereira et al., "Mechanisms of [Ca2+]i Transient Decrease in Cardiomyopathy of db/db Type 2 Diabetic Mice," Diabetes, Vol 55, pp. 608-615 (2006) | |
| | CU** | Shao et al., "Dyssynchronous (non-uniform) Ca2+ release in myocytes from streptozotocin-induced diabetic rats," Journal of Molecular and Cellular Cardiology, Vol 42, pp. 234-246 (2007) | |
| | CV** | Takasawa et al., "Cyclic ADP-ribose and Inositol 1,4,5-Trisphosphate as Alternate Second Messengers for Intracellular Ca2+ Mobilization in Normal and Diabetic β -Cells," The Journal of Biological Chemistry, Vol 273, pp. 2497-2500 (1998) | |
| | CW** | Varadi et al., "Dynamic Imaging of Endoplasmic Reticulum Ca2+ Concentration in Insulin-Secreting MIN6 Cells Using Recombinant Target Cameleons. Role of Sarco (endo) plasmic Reticulum Ca2+ -ATPase (SERCA)-2 and Ryanodine Receptors," Diabetes, Vol 51, Suppl. 1, pp. S190-S201 (2002) | |
| | CX** | Woolcott et al., "Arachidonic acid is a physiological activator of the ryanodine receptor in pancreatic β -cells," Cell Calcium, Vol 39, pp. 529-537 (2006) | |
| | CY** | Yaras et al., "Restoration of Diabetes-induced abnormal local Ca2+ release in cardiomyocytes by angiotensin II receptor blockade," Am J. Physiol Heart Circ Physiol, Vol 292, pp. H912-H920 (2007) | |
| | CZ** | Yaras et al., "Effects of Diabetes on Ryanodine Receptor Ca Release Channel (RyR2) and Ca2+ Homeostasis in Rat Heart," Diabetes, Vol 54, pp. 3082-3088 (2005) | |
| | CA1** | Zhang et al., "Growth Hormone Promotes Ca2+-induces Ca2+ Release in Insulin-Secreting Cells by Ryanodine Receptor Tyrosine Phosphorylation," Molecular Endocrinology, Vol 18, pp. 1658-1669 (2004) | |

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ** CITE NO.: Those document(s) which are marked with an double asterisk (**) next to the Cite No. are not supplied because they were previously cited by or submitted to the Office in a prior application relied upon in this application for an earlier filing date under 35 U.S.C. 120.

¹Applicant's unique citation designation number (optional). ²Applicant is to place a check mark here if English language Translation is attached.

| | | | |
|--------------------|--|-----------------|--|
| Examiner Signature | | Date Considered | |
|--------------------|--|-----------------|--|

6323194